MAGAZINE SECTION **THE OGDEN STANDARD** MAGAZINE SECTION

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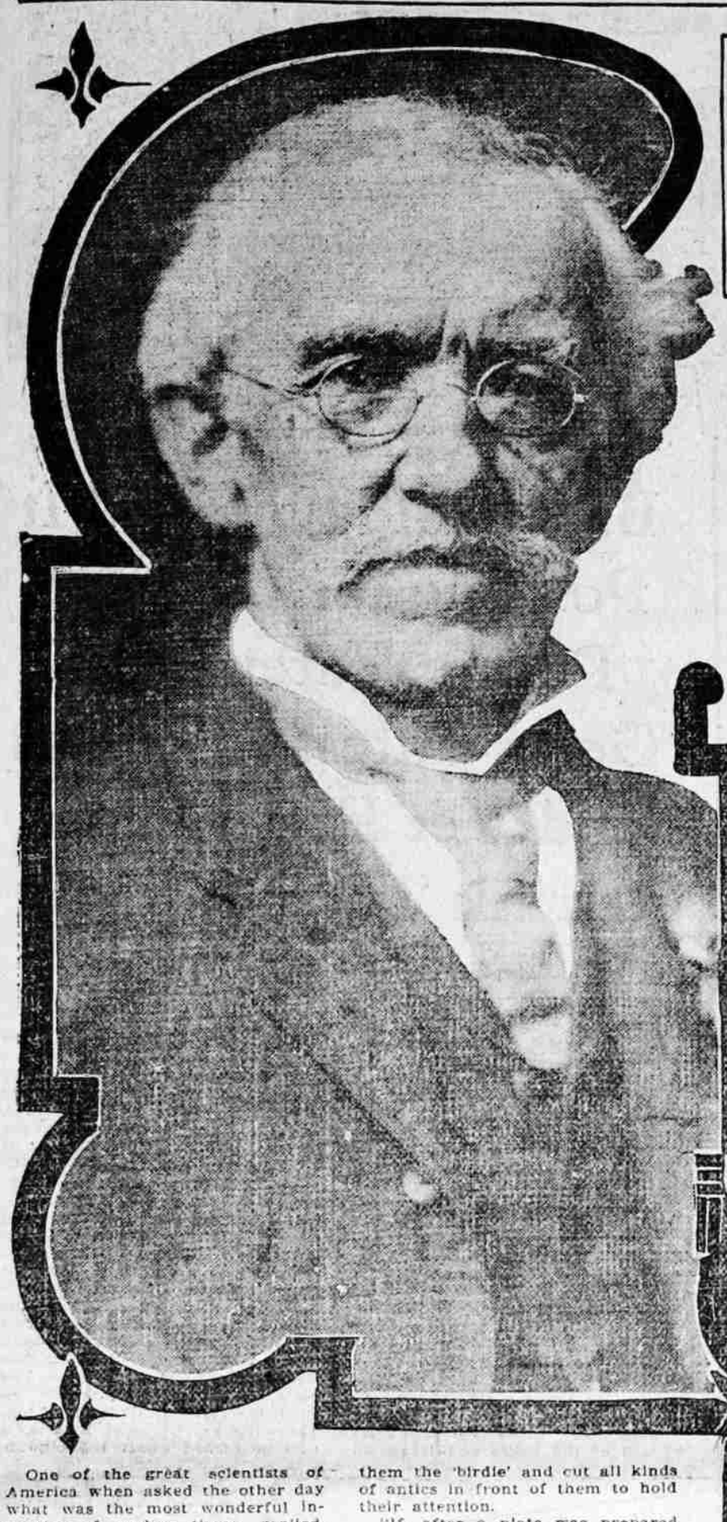
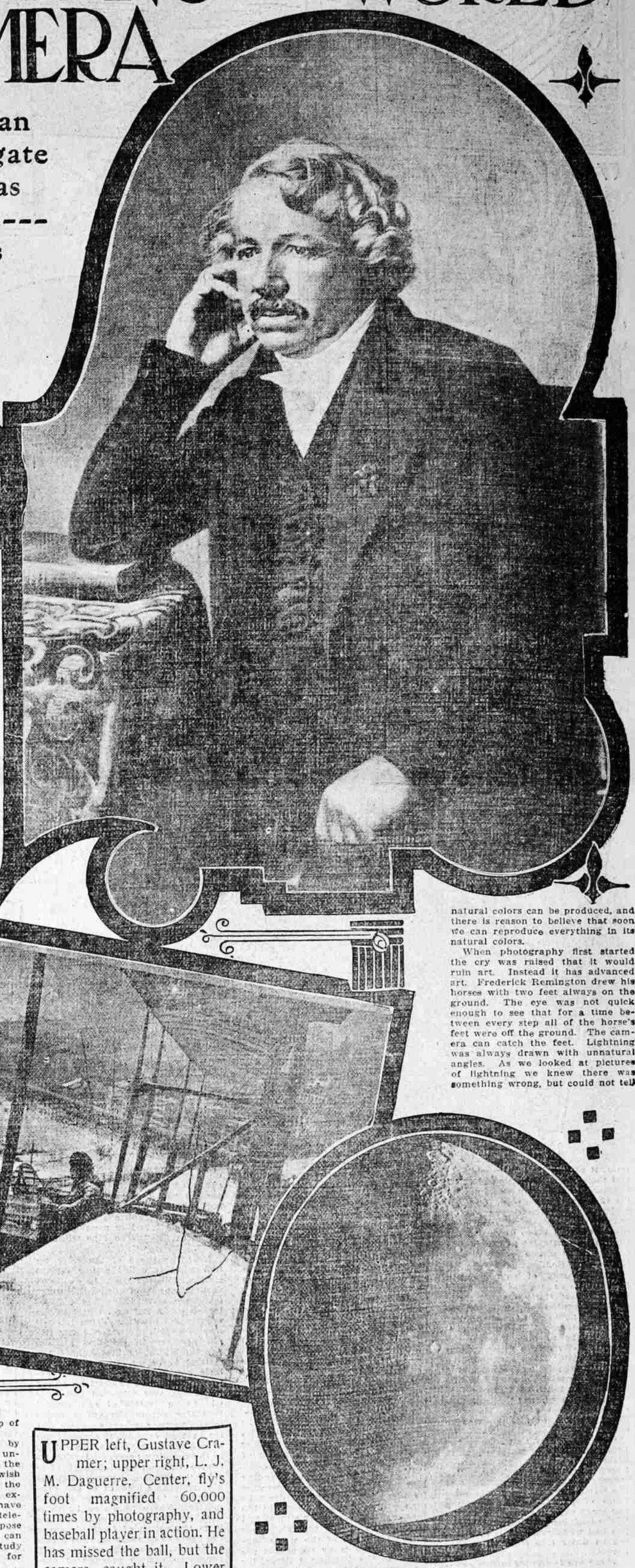
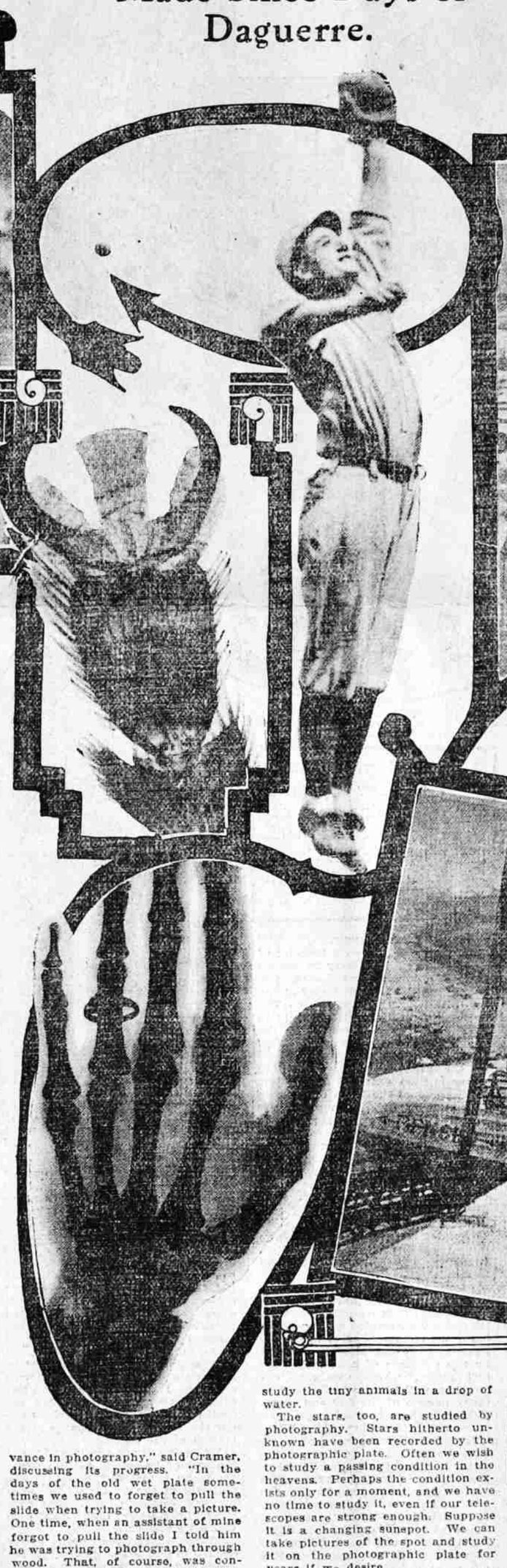
RE-DISCOVERING *the* WORLD *with a* CAMERA

Photography Gives Man Opportunity to Investigate Things He Never Was Able to Explore Before--- Wonderful Progress Made Since Days of Daguerre.







One of the great scientists of America when asked the other day what was the most wonderful invention of modern times, replied, "Photography." He classed photography as the eighth wonder of the world and asserted it was doing more for the advance of science than any other one thing.

Photography is a toy for the amateur, it is a comforter for the mourning mother, it is the right arm for the astronomer and chief consulting surgeon for the physician. The salesman uses it as his chief mouthpiece. It is the scout captain of the General; it is the servant of the teacher, preacher, lecturer and theatrical man. The artist has learned accuracy through the photographic lens and as a result art more wonderful than ever has been produced.

Yet, the possibilities of photography are only beginning. Seventy-five years ago Daguerre startled the world when he reproduced a likeness of a person without paint or pencil. In Daguerre's day there were a half dozen brainy men in the world working to perfect photography. Today there are thousands. Every photographic magazine is full of new discoveries of the investigators.

In Daguerre's day it sometimes took as long as five minutes to take a picture in the bright sunlight. The man posing for the picture had to sit perfectly still all that time. Today with the modern cinematograph, we catch the man running at full speed. We pick up a picture of an engine without difficulty. We even photograph a bullet. Photography is swifter than lightning. Lenses and plates today are so fast that a photograph can be taken in one-twenty-five hundredth of a second.

Since the days of Daguerre the two greatest epoch-making discoveries in photography probably are the discovery of the X-Ray and the discovery of the dry plate. Gustav Cramer, who with Elmer Norden, a German, perfected the modern dry plate was a boy when the daguerreotype was startling the world. The first time he ever sat for a picture was in a family group when his father took the entire family to the artist to sit for a daguerreotype. Those pictures were taken out of doors in the bright sun.

SILVER SOLUTION THAWED OUT.

The invention of the wet plate from which any number of pictures could be printed was the next important development. Cramer, who had always been interested in the making of pictures, began to do photographic work with wet plates.

"The biggest trouble was that we had to prepare our plates right before taking the picture," he said. "If we went out on the field to take a picture we had to take a wagon with us to carry the apparatus. I remember during the Civil War when I took pictures of army scenes that my silver solution froze and I had to thaw it out before I could go ahead.

"In taking pictures of children there was infinite difficulty because we could not get them to sit still long enough. We had to show them the 'birdie' and cut all kinds of antics in front of them to hold their attention.

"If, after a plate was prepared with the silver solution, the child would cry we had to calm him at once or the plate would be spoiled.

It was one of these long-time exposures that set Cramer to thinking about producing a faster plate. One afternoon a woman came to pose for a portrait. It was in the later 70's. He had the woman posing at a pedestal. With the quality of light, Cramer saw he would have to take a long-time exposure. He began to count, intending to count to 100. The tensity of standing still while the photographer counted to 100 overcame the woman.

"I happened to glance away as I was slowly counting," said Cramer. "As my head was turned there was a crash. I looked back and the woman had fallen to the floor in a faint and the pedestal was on top of her. Soon after that a scientist, Elmer Norden, came to America from Germany, trying to interest men in the development of a dry plate, one that could be kept for years. Older photographers did not take kindly to his plans, but I saw the advantage of a dry plate and asked him to use my studio for his experiments.

"Together we worked for a long time. Often I was rushed by day with my customers and could not join in the work until night. Often I worked all night at the problem. We were only working on discoveries already made. Several other men throughout the country were working on the plate at the same time. Early in 1880 our work was rewarded with success. Triumphantly we went to Chicago to the National Convention of Photographers, and there showed our work.

NEW PHOTOGRAPHY FOOLS CONVENTION.

"So simple was our process of photographing that the men in the convention thought we were fooling."

Cramer became president of the National Photographers' Association in 1887. Though he has long ceased to make photographs he is still affectionately known by all photographers as "Pop" Cramer. In 1894 at a convention a watch fob was given to him by the photographers of the country, and across it was inscribed "From Papa's Boys."

X-ray photography has been of wonderful value to surgery. In the Civil War, when a man was wounded the surgeons had to probe for the bullet. Sometimes a bullet would enter a man's chest and be deflected by a rib so it would enter the shoulder. The only way the bullet could be found would be by probing. Sometimes the doctors would probe and probe until they had killed the man. Today in a hospital a wounded man is photographed by the X-ray camera. The body is transparent to the X-ray and a picture of the internal organs of the man can be shown. The bullet will stand out clearly in the picture and all the surgeons have to do is to cut straight to the mark.

"Wonderful indeed is the advance in photography," said Cramer, discussing its progress. "In the days of the old wet plate sometimes we used to forget to pull the slide when trying to take a picture. One time, when an assistant of mine forgot to pull the slide I told him he was trying to photograph through wood. That, of course, was considered the height of improbability, but today we photograph through wood."

Physicians are aided by the photomicrograph. That is photographing infinitessimally small objects and enlarging them at the same time. Cyanide can be detected in the blood by its means. The photomicrograph can see objects our eyes cannot see with the most powerful microscope. By the photomicrograph we can study the tiny animals in a drop of water.

The stars, too, are studied by photography. Stars hitherto unknown have been recorded by the photographic plate. Often we wish to study a passing condition in the heavens. Perhaps the condition exists only for a moment, and we have no time to study it, even if our telescopes are strong enough. Suppose it is a changing sunspot. We can take pictures of the spot and study it on the photographic plate for years if we desire.

One of the great educational factors is the moving picture. We are teaching geography today by moving pictures and giving children an accurate impression of lands they are studying about. The action of a bullet in passing through a piece of steel, or any other substance, can be studied by the moving picture. Recently moving picture shows all over the country showed on the screen a bullet passing through a piece of cheese. The bullet was so swift the eye could not follow it, but the cinematograph followed it. The film was unwound slowly before a lantern. On the screen appeared the piece of cheese and the bullet slowly traveling through it.

We even are seeing colored moving pictures. Color photography has been highly developed. By this new process things almost in their natural colors can be produced, and there is reason to believe that soon we can reproduce everything in its natural colors.

When photography first started the cry was raised that it would ruin art. Instead it has advanced art. Frederick Remington drew his horses with two feet always on the ground. The eye was not quick enough to see that for a time between every step all of the horse's feet were off the ground. The camera can catch the feet. Lightning was always drawn with unnatural angles. As we looked at pictures of lightning we knew there was something wrong, but could not tell why because lightning is so swift. With the camera we have caught lightning and the artist can make reproductions more true to life than ever before.

None can tell what the future will bring forth, but with men of brains all over the world working towards perfection more startling improvements will be witnessed in another decade.

UPPER left, Gustave Cramer; upper right, L. J. M. Daguerre. Center, fly's foot magnified 60,000 times by photography, and baseball player in action. He has missed the ball, but the camera caught it. Lower left, X-ray photo of a woman's hand. Lower center, a picture from the wing of an aeroplane. Lower left, a photo of the moon in its last quarter.